

REMARKS

This Application has been carefully reviewed in light of the Office Action mailed October 23, 2003. Claims 1-42 are pending in this Application. Claim 1, 6, 8, 14, 20, 24, 30, 35-36, and 42 have been amended. Claims 5, 19, and 34 have been cancelled. Applicants submit that no new matter has been added by the claim amendments. As described below, Applicants believe all claims to be allowable over the cited references. Therefore, Applicants respectfully request reconsideration and full allowance of all pending claims.

Information Disclosure Statement (IDS)

Applicants submit an IDS with this Response for the Examiner's review and consideration. Applicants respectfully request that the Examiner formally indicate that the references were considered in the prosecution of the Application.

Section 102 Rejections

Claims 1-42 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,987,101 issued to Toh ("Toh"). In order for a patent claim to be anticipated under §102, each and every element of that claim must be present in the cited art. For the reasons discussed below, *Toh* fails to disclose each and every element of Claims 1-42.

Toh discloses a system and method for supporting ad-hoc mobile communications by measuring the stability of communication links between neighboring mobile hosts. (*Toh*, Abstract). Associativity tables are provided at each mobile host, with each table storing the stability for each communication link associated with a mobile host. (*Toh*, Col. 3; Lines 57-60). Each mobile host has a routing table that is configured to set a route for communicating signals through the mobile host between other devices in the network. (*Toh*, Col. 3; Line 66 – Col. 4; Line 2). A connection-oriented packet forwarding approach is utilized which only selects the best routes while all other possible routes remain passive to avoid packet duplication. (*Toh*, Col. 7; Lines 51-64).

Claims 1, 14, 30, and 42 are Allowable Over Toh

Claim 1, as amended, of the present application recites:

A method for routing communications at a mobile station, comprising:

at a mobile station, determining one or more routing metrics associated with each of a plurality of communication paths coupling the mobile station and a destination device, wherein at least one of the routing metrics comprises the link quality of at least one wireless communication link included in each of the communication paths, and wherein at least one of the communication paths includes a wireless communication link using a different wireless communication protocol than a wireless communication link of one or more of the other communication paths;

at the mobile station, receiving routing information from one or more routers coupling the mobile station and the destination device; and

routing a communication to the destination device based on the determined routing metrics and the received routing information.

Claims 14, 30 and 42, as amended, recite similar, although not identical, limitations.

Independent Claims 1, 14, 30, and 42, as amended, incorporate similar, although not identical, limitations to those in cancelled Claims 5, 19, and 34, respectively. For example, Claim 1, as amended, recites "at least one of the communication paths includes a wireless communication link using a different wireless communication protocol than a wireless communication link of one or more of the other communication paths." Claims 30 and 42, as amended, recite similar, although not identical, limitations. In addition, Claim 14, as amended, recites "at least two of the wireless communication interfaces use different wireless communication protocols to enable wireless communication links to the mobile station." The Examiner states that *Toh* discloses the limitations of cancelled Claims 5, 19, and 34. (Office Action mailed 10/23/03, page 3, ¶ 4, citing *Toh*, Col. 18; Line 31-47). *Toh* merely discloses a WLAN using the IEEE 802.11 wireless communication protocol, where the WLAN includes base stations that provides access to a *wired* network with conventional routing protocols. (*Toh*, Col. 18; Line 39-43). However, *Toh* fails to disclose that at least one of the communication paths includes a wireless communication link *using a different wireless communication protocol than a wireless communication link of one or more of the other communication paths*, as recited in amended Claim 1, and similarly, although not identically, in amended Claims 30 and 42.

Furthermore, Claim 14, as amended, recites that the mobile station comprises a plurality of communication interfaces enabling a plurality of wireless communications links to the mobile station. The Examiner fails indicate any portion of *Toh* that discloses this additional element. (Office Action mailed 10/23/03, page 2, ¶2). Also, similar to the discussion above regarding amended Claim 1, *Toh* fails to disclose that at least two of the wireless communication interfaces use different wireless communication protocols to enable wireless communication links to the mobile station, as recited in amended Claim 14.

For at least these reasons, Claims 1, 14, 30, and 42, as amended, are allowable over *Toh*. Therefore, Applicants respectfully request reconsideration and allowance of Claims 1, 14, 30, and 42, as well as all claims that depend from those claims.

Claims 2, 15, and 31 are Allowable Over Toh

Claim 2 recites measuring the link quality of the wireless communication links immediately before routing the communication. Claims 15 and 32 recite similar, although not identical, limitations. The Examiner states that *Toh* discloses this limitation. (Office Action mailed 10/23/03, page 3, ¶ 1, citing *Toh*, Col. 9; Line 14-21). *Toh* discloses the approximate timing after receiving its first broadcast query packet that the destination node will know all of the possible communication routes and their qualities. (*Toh*, Col. 9; Line 14-21). However, *Toh* fails to disclose measuring the link quality of the wireless communication links *immediately before routing the communication*, as recited in Claim 2 and similarly, although not identically, in Claims 15 and 31.

For at least this additional reason, Claims 2, 15, and 31 are allowable over *Toh*. Therefore, Applicants respectfully request reconsideration and allowance of Claims 2, 15, and 31.

Claims 3, 17, and 32 are Allowable Over Toh

Claim 3 recites measuring the bit error rate of the wireless communication link. Claims 17 and 32 recite similar, although not identical, limitations. The Examiner states that *Toh* discloses this limitation. (Office Action mailed 10/23/03, page 3, ¶ 2, citing *Toh*, Col. 9;

Line 8-13). *Toh* merely discloses that the end of a broadcast query packet includes a cyclic redundancy packet, which enables the integrity of the received packet to be confirmed. (*Toh*, Col. 9; Line 8-13). However, *Toh* fails to disclose *measuring the bit error rate* of the wireless communication link, as recited in Claim 3 and similarly, although not identically, in Claims 17 and 32.

For at least this additional reason, Claims 3, 17, and 32 are allowable over *Toh*. Therefore, Applicants respectfully request reconsideration and allowance of Claims 3, 17, and 32.

Claims 4, 18, and 33 are Allowable Over Toh

Claim 4 recites measuring the link quality using a control channel established with a device with which the wireless communication link is to be established. Claims 18 and 33 recite similar, although not identical, limitations. The Examiner states that *Toh* discloses this limitation. (Office Action mailed 10/23/03, page 3, ¶ 3, citing *Toh*, Col. 7; Line 41-50). *Toh* discloses measuring the stability of the communication links between neighboring mobile hosts using an associative characteristic and selecting a communications route through the network from the source host to the destination host based on the link stability. (*Toh*, Col. 7; Line 41-57). In *Toh*, the stability of a link is the longevity of the connection of that link between mobile hosts. (*Toh*, Col. 3; Lines 31-38). However, *Toh* fails to disclose a *control channel*, let alone *measuring the link quality using a control channel* established with a device with which the wireless communication link is to be established, as recited in Claim 4 and similarly, although not identically, in Claims 18 and 33.

For at least this additional reason, Claims 4, 18, and 33 are allowable over *Toh*. Therefore, Applicants respectfully request reconsideration and allowance of Claims 4, 18, and 33.

Claims 8, 24, and 36 are Allowable over Toh

Claim 8, as amended, recites "at least one of the metrics comprises the power requirements of at least one wireless communication link included in each of the communication paths." Claims 24 and 36, as amended, recite similar, although not identical,

limitations. The Examiner states that *Toh* discloses this limitation. (Office Action mailed 10/23/03, page 4, ¶ 2, citing *Toh*, Col. 18; Line 61- Col. 19; Lines 31). *Toh* merely discloses that the transmission power of each mobile node can be dynamically adjusted to reduce cell size and the number of neighbors of the mobile node to improve throughput. (*Toh*, Col. 18; Line 66 – Col. 19; Line 2). However, *Toh* fails to disclose that at least one of the metrics comprises the *power requirements of at least one wireless communication link* included in each of the communication paths, as recited in Claim 8, and similarly, although not identically, in Claims 24 and 36.

For at least this additional reason, Claims 8, 24, and 36 are allowable over *Toh*. Therefore, Applicants respectfully request reconsideration and allowance of Claims 8, 24, and 36.

Claims 6-7, 9-13, 16, 20-23, 25-29, 35, and 37-41 are Allowable over Toh

Claims 6-7 and 9-13 depend from, and include all the limitations of, amended Claim 1, which has been shown to be allowable for the reasons discussed above. For example, Claims 6-7 and 9-13 include the limitation that at least two of the communication paths include wireless communication links using different wireless communication protocols, which, as discussed above, is not disclosed in *Toh*.

Claims 16, 20-23, and 25-29 depend from, and include all the limitations of, amended Claim 14, which has been shown to be allowable for the reasons discussed above. For example, Claims 16, 20-23, and 25-29 include the limitation that at least two of the wireless communication interfaces use different wireless communication protocols to enable wireless communication links to the mobile station, which, as discussed above, is not disclosed in *Toh*. Furthermore, Claims 16, 20-23, and 25-29 also include the limitation that the mobile station comprises a plurality of communication interfaces enabling a plurality of wireless communications links to the mobile station, which the Examiner has failed to indicate is disclosed in *Toh*.

Claims 35 and 37-41 depend from, and include all the limitations of, amended Claim 30, which has been shown to be allowable for the reasons discussed above. For example,

Claims 35 and 37-41 include the limitation that at least two of the communication paths include wireless communication links using different wireless communication protocols, which, as discussed above, is not disclosed in *Toh*.

For at least these additional reasons, Claims 6-7, 9-13, 16, 20-23, 25-29, 35, and 37-41 are allowable over *Toh*. Therefore, Applicants respectfully request reconsideration and allowance of Claims 6-7, 9-13, 16, 20-23, 25-29, 35, and 37-41 .

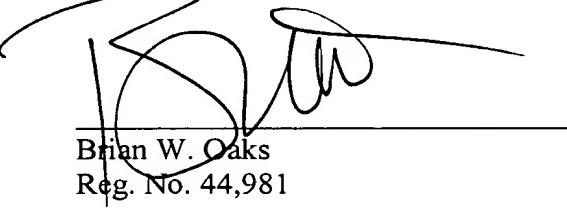
CONCLUSION

Applicants have made an earnest attempt to place this case in condition for allowance. For the foregoing reasons, and for other reasons clearly apparent, Applicants respectfully request full allowance of all pending claims.

If the Examiner feels that a telephone conference would advance prosecution of this Application in any manner, the Examiner is invited to contact Brian W. Oaks, Attorney for Applicants, at the Examiner's convenience at (214) 953-6986.

The required fee of \$180.00 is submitted herewith for the IDS and is believed to be correct. However, if this is not correct the Commissioner is hereby authorized to charge additional fees or credit any overpayments to Deposit Account No. 02-0384 of Baker & Botts, L.L.P.

Respectfully submitted,
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